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## NOTES ON THE FLORA OF MARYLAND AND VIRGINIA,—I.

IVAR TIDESTROM.

IN a booklet<sup>1</sup> on the Coniferae of Maryland and Virginia, the writer presented a review of the species growing in Maryland and Virginia. A fairly complete synonymy was there given so as to enable any one who might be interested in the history of our Coniferae to trace their record in literature to the earliest sources. In the last five years a good deal has been added by several workers to our knowledge of the distribution of the species. This information is summarized in these notes.

In regard to the genus *Pinus* which occupies fully as important a place as *Quercus* in our flora there is much to be added and — corrected. The several distinct floral regions of our area have each some particular pine, which along with certain oaks is characteristic of the landscape, as for instance, *Pinus virginiana* in the western part of the coastal plain of Maryland, or *Pinus Taeda* on the Eastern Shore. It is often true that whatever pine inhabits a region constitutes the most characteristic element in the scenery.

*PINUS VIRGINIANA* Mill. The range of this species is given in the most recent book covering our region<sup>2</sup> “from Long Island to South Carolina, Alabama and Southern Indiana. I have observed the species throughout Maryland with the exception of Garrett County in the western extremity of the state. My observations in western Maryland extend only to a point two or three miles west of Cumberland where I found the species common on slopes. In Virginia my

<sup>1</sup> *Elysium Marianum* 1: pt. 2, 1908.

<sup>2</sup> Gray's Manual ed. 7, p. 64.

westernmost record is Clifton Forge [Tm. no. 36] where I observed it at the base of the mountain and to some extent on the slopes, while *Pinus pungens* crowned the ridges. Some miles westward at Covington, I noticed no *Pinus virginiana*, but found *Pinus Strobus* [Tm. 3153] scattered, *Pinus rigida* [Tm. 3154], and *Pinus pungens* [Tm. 3158] frequent. On the Eastern Shore, *Pinus virginiana* is frequent and sometimes abundant. I have observed it associated with *Pinus Taeda* near Cape Charles and in many localities northward. The densest stands, however, are not found on the Eastern Shore but in the western portion of the coastal plain and in the Piedmont region. It was first recorded by Plukenet in 1696 under the name *Pinus virginiana binis brevioribus & crassioribus setis* etc., and also by Clayton.<sup>1</sup> In the stamping ground of that enthusiastic pioneer — at Gloucester Court House and adjacent region — I have found the scrub pine frequent, even forming forests here and there.

*PINUS ECHINATA* Mill. appears to be a rare tree in our region. I have collected specimens of it from a tree (introduced?) in the park of the U. S. Soldier's Home, Washington, D. C., and in St. Mary's County, Md., between Leonardtown and Millstone [Tm. 5113]. In the latter region it was mixed with the prevalent *Pinus virginiana*. There is a single tree in a field one mile west of Warrenton, Virginia, from which I collected specimens this spring [Tm. 6239].

*PINUS PUNGENS* Lamb. This interesting little pine was first discovered by Michaux on Massanutten Mountain in Virginia. I had never seen the tree growing wild until August 2, 1907, when I botanized at Clifton Forge. At this place I found it scattered among several species of oaks, particularly *Quercus alba* and *Quercus prinus monticola*. Since that time I have found the tree in several localities — at Pen-Mar on Mount Quirark [Tm. 5889] at an elevation of 630 m.; on Sugar Loaf Mountain, Maryland, at an elevation of 360 m. At the latter place there is a number of trees on the very rocky and steep slopes besides those crowning the summit. The tree is also present at Thoroughfare Gap, Virginia. There are a few trees in Rock Creek Park, Washington, D. C., and also some along the rocky bluffs of the Potomac River, about 15 miles above Washington. The tree is pre-eminently an inhabitant of the high ridges and plateaux — hence its name Table Mountain Pine.

<sup>1</sup> Gronovius [and Linnaeus] *Flora Virginica*, p. 190, 1743.

*PINUS TAEDA* L. This stately tree is an inhabitant of the coastal plain. It forms forests in the southeastern quarter of our region, particularly about Norfolk and Cape Charles, Va., and on the opposite mainland. As one descends the Potomac River towards its mouth this weird pine attracts attention on account of its loftiness. Where it forms forests, with the ocean for a background, the tall, straight trunks, devoid of branches to within a few feet of the top, give the impression of countless pillars supporting an uninterrupted roof of branches.

My own observations as to the distribution of the species are as follows: At Franklin, Va., it is one of the characteristic trees on higher ground beyond the river area, which is inhabited by *Taxodium distichum*, *Quercus nigra*, *Quercus lyrata*, and species of *Alnus*, *Betula*, and *Nyssa*. It also forms more or less broken forests eastward towards the ocean. At Petersburg, Va., it is also the characteristic pine on the higher ground, while the area immediately adjoining the Appomattox River is inhabited by *Liquidambar*, *Quercus nigra*, and other species usually associated with these. Proceeding northward to Fredericksburg we find the tree losing itself, so to speak, among the oaks, hickories, and scrub-pines.

Going northeastward from this point towards the Potomac River and crossing into Maryland, we meet with the tree in Charles County mixed with the scrub pine and shrubs. In June, 1911, I traversed Charles County from a point near the mouth of Nanjemoy Creek northward into Prince George's County to Washington, observing the tree occasionally. After passing Pisgah, Charles County, however, I did not observe a single tree of *Pinus Taeda*. It may occur north of that point but if so it must be rare and out of its range. The solitary trees which occur here and there in northern Charles County, as for example, at Marshall Hall, are lost sight of before one reaches the Prince George's County line. In August, 1911, I explored the region lying between Leonardtown and Millstone, at the mouth of the Patuxent River. In this region I found the scrub pine to be the characteristic conifer, although *Pinus Taeda* was quite frequent. At the mouth of the Patuxent River *Pinus Taeda* is common. North of this point about 30 miles — at Chesapeake Beach, in Calvert County, I have observed scattered individuals, but I have not seen the tree inland from this point — at least not west of the Patuxent River. My own observations, therefore, lead me to believe that

*Pinus Taeda* does not exist except as a planted tree in Prince George's County, although accredited to this County by Professor Chrysler.<sup>1</sup> It is possible that *Pinus rigida* may have been taken for *Pinus Taeda* in this instance. The former is common in Prince George's County, while the latter has never been observed wild there, as far as I know, by any of the local botanists of Washington who are perhaps more familiar with the situation than botanists from a distance.<sup>2</sup> *Pinus Taeda* can always be distinguished from *Pinus rigida* as the cones in the former are fully twice as long as those of the latter, not to mention any of the leaf-characters. On the Eastern Shore of Chesapeake Bay I have noticed *Pinus Taeda* at Claiborne, Easton, Wye Mills, Queen Anne, Denton, Md., and at Lewes, Delaware, and throughout Accomac and Northampton Counties, Va. In those places it forms forests or is scattered among deciduous trees and *Pinus virginiana*.

**PINUS RIGIDA** Mill. This pine is a northern tree<sup>3</sup>: It disappears from the coastal plain in Virginia. In the mountains I have observed it in a number of places; at Cumberland, Md., it is common; at Covington, Va., it is mixed with *Pinus pungens* and sparingly with *Pinus Strobus*. It is frequently found mixed with *Pinus virginiana* in the Piedmont region and on the coastal plain. It sometimes forms forests or smaller colonies as at Lewes, Delaware, where I have seen it and *Pinus Taeda* in almost equal numbers. I have no knowledge of its occurrence south of this place except further inland at higher altitudes towards the fall line.

**PINUS STROBUS** L. This picturesque pine is frequent throughout the western counties of Maryland and Virginia. I have observed it at Pen-Mar [Tm. 5875], at Covington, Va. [Tm. 3157], and elsewhere. Mr. H. H. Bartlett has found it at Rockville, Md., and Mr. H. S. Barber near the Potomac River in Virginia some ten miles upstream from Washington, D. C.

**PINUS SEROTINA** Michx. This tree has been observed by Mr. R. M. Harper<sup>4</sup> between Portsmouth and Suffolk, Va. It is an inhabitant of sandy swamps in the coastal plain and ranges from Virginia to

<sup>1</sup> Plant Life of Maryland, p. 155.

<sup>2</sup> Much argument ecological falls of its own weight when the entities considered are not known to the observers.

<sup>3</sup> It was known in Europe under the name "the Three-leaved Virginian Pine Tree" as early as 1768 or earlier.

<sup>4</sup> Torreya 3: 122, 1903.

Florida.<sup>1</sup> Mr. Harper reports it also from the sand hills of North Carolina. I have seen no specimens from Virginia.

*PINUS PALUSTRIS* Mill. is another very rare tree in our region. It has been reported from the Dismal Swamp, but I have not seen any specimens of it from that place. Mr. Harper (l. c.) reports it common on the coastal plain of North Carolina, "especially on the sandhills."

*PICEA*. Too little botanizing has been done in our mountains to give us any adequate notion of the distribution of our spruces. The same is true of our firs and the tamarack. The latter was not known from Maryland at the time I prepared the booklet on the Conifers.

*TSUGA CANADENSIS* L. The hemlock is frequent throughout the mountains of Maryland and Virginia. I have observed it in many places: in West Virginia it is quite common. Solitary trees are to be found along the Potomac River within 15 miles of Washington. So far as I know we have only one published record of this tree from the coastal plain: it is mentioned in the Plant Life of Maryland by Mr. Shreve,<sup>2</sup> who records it from Watts Creek, Caroline County, some three miles south of Denton. While on a botanical trip to the Eastern Shore, September 23, 1912, Mr. Stevens of Queen Anne, Md., took me to a colony of what the inhabitants called the "yew-pine," some three or four miles south of that village, along the Tuckahoe River. I was astonished to find a large number of *Tsuga canadensis* lining both banks of the river. There was a considerable mixture of species, for many of the swamp species, as *Nyssa*, *Liquidambar*, and *Quercus*, were represented. The largest hemlocks were 3 dm. in diameter. There were also a large number of saplings, and Mr. Stevens estimated the number of hemlocks at 3000. The presence of a great number of robust saplings leads us to the belief that these trees are native and not by some agency or other introduced.

Owing to lack of facilities for crossing we examined only the right bank of the river, so we have little knowledge of the conditions on the other bank, which, however, appeared still more favorable to the hemlock. The vernacular name is of some significance and leads us to believe that it could not have been applied to our tree except by a people who were familiar with the yew. So we must draw the conclusion that the first colonists gave it the name yew pine. Being familiar with the European tree and finding our tree with "yew-leaves" dif-

<sup>1</sup> Small, Fl. S. E. U. S. 28, 1903.

<sup>2</sup> Plant Life of Maryland, p. 122.

ferent from it they applied the name "yew-pine" to it. It should be noted also that the people of the Eastern Shore are not possessed with that restive spirit which characterizes those of other sections and that traditions have remained intact in a higher degree here than elsewhere. Besides the scant means of communication of earlier days, the natural barrier — Chesapeake Bay, and the great distance to other localities for the species — would naturally prevent the people from learning the common name which the tree bears throughout New England and the Middle States.

TAXODIUM DISTICHUM L. The weird Bald Cypress is frequent in swamps in Eastern Maryland and southward. I have observed it along Pocomoke River where it is the prevalent tree and also along Blackwater River at Franklin, Va. Bartram has eulogized it in his Travels (p. 88) and a few lines of his may not be amiss: "its majestic stature is surprising; and on approaching it, we are struck with a kind of awe, at beholding the stateliness of the trunk, lifting its cumbersome top toward the skies; and casting a wide shade upon the ground, as a dark intervening cloud, which, for a time excludes the rays of the sun." I have seen them in all their magnificence in Florida.

WASHINGTON, D. C.

## IS VIOLA ARENARIA DC. INDIGENOUS TO NORTH AMERICA?

EZRA BRAINERD.

(Plate 104.)

EUROPEAN students of *Viola* have recently reduced *V. arenaria* DC. (1805) to varietal rank, as differing from the older *V. rupestris* Schmidt (1791) only in being "densely short-hairy or downy."<sup>1</sup> This requires a corresponding change in the name of the American species, that has been generally passing as *V. arenaria* since the publication of the Illustrated Flora in 1897. But before doing this, it seems a fitting time to review critically the claim that the plants of

<sup>1</sup> Reichlich kurzhaarig oder pflaumig,— W. Becker, Flora Bayerns.